

Features

General Features:

- PC/104-Plus compliant (except for component heights)
- Onboard filtered DC/DC converter
- Onboard Digital Temperature sensor (National Semiconductor LM75) via an I2C interface
- Over temperature shutdown at 102°C
- User accessible 3 A mini-fuse
- Optional Conformal coating availability
- Optional Mechanical adaptations for different system configurations
- Isolation voltage:
 - 1500V Input/output
 - 1000V input/case
 - 500V Output/case
- Rth case-ambient: 9.3°C/W
- Efficiency: 83% Typical on 5V (at full load)
- MTBF: 130 Khrs (MIL-HDBK-217F GM at +25°C)

Input features:

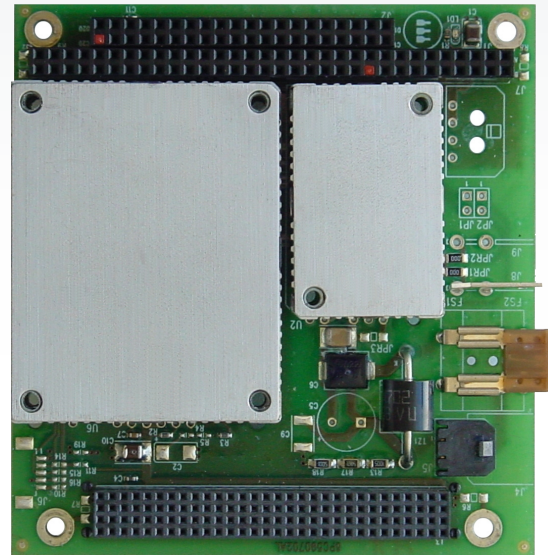
- Wide input range: +15.5 to +40V DC (50V DC for 1s)
- High input margin for transients and over voltages
- Reverse voltage protected up to –60V DC
- Input protected with multi-stage voltage suppressors and filters

Output features:

- Outputs: single +5V, overload protected
- Power outputs without de-rating: +5V/5A
- Peak power output:
 - +5V/5A with limited operating temperature
 - Up to +85°C without structural heat sinking

RoHS:

- Fully RoHS (2002/95/CE) Compliant



The Eurotech ACS-5125 is a 25W isolated power supply module designed to meet the system requirements of military vehicle, aircraft, machine or vessel installations. The module supplies +5V @ 5A with overload protection and without any de-rating.

The ACS-5125 features a DC/DC converter that provides for well-controlled outputs with no overshoot and control functions such as voltage trim, remote sense and inhibit. It can also generate an over temperature warning signal that gives user control over the temperature shutdown function of the converter via an I2C interface. In conjunction with the DC/DC converter, the ACS-5125 can also be equipped with an EMC filter against conducted susceptibilities, surges and spikes.

Resistance to high levels of shock and vibration are a result of the mechanical solutions adopted in this ruggedised PC/104-Plus compliant (except for component heights) module: these include the use of the PCB for heat dissipation, component selection and extensive use of SMD components.

In addition, the power supply construction allows for the EMI filter, DC/DC converter and the heat dissipating protection devices to be mounted on the top or on the bottom side of the board. This allows for the maximum configuration flexibility when integrating the ACS-5125 in a system and easily supports the use of structural heat sinking enabling reliable temperature operation (-40 to +85 °C) without any active cooling.

The ACS-5125 meets requirements of EC low voltage directives for CE compliance. When the power supply module only features the DC/DC converter, it meets the conducted emission and immunity requirements of MIL-STD-461E (EMC performance) and MIL-STD-810F (environmental performance). When the EMC filter is also mounted, the ACS-5125 additionally complies with MIL-STD-1275A/B/C & MIL-STD-704 (emission and immunity performance).

ACS-5125

Physical Characteristics

DIMENSIONS	90 x 96 mm (3.6" x 3.8")
HEIGHT	27 mm (1.1")
POWER SUPPLY	Single +5V DC +/- 5%
OPERATING TEMPERATURE	-40 ~ +85°C (standard) 100°C (maximum base plate temperature)
HUMIDITY	Up to 88% non-condensing

Requirements compliance

The ACS-5125 meets the requirements of EC low voltage directives for CE compliance.

The board is compliant with the following standards:

- MIL-STD-810F
- MIL-STD-704
- MIL-STD-1275A/B/C
- MIL-STD-461E:

Requirement	Type of test	Restriction
CE102	Conducted emission	10 KHz to 10 MHz, for 28V supplied devices
CS101	Frequency conducted: Immunity, bulk cable injection	30 Hz to 150 KHz; for 28 V supplied devices
CS114	Conducted immunity: Bulk cable injection	10 KHz to 200 MHz
CS115	Conducted immunity: Bulk cable injection, impulse excitation	-
CS116	Conducted immunity: Damped sinusoidal transient, cables and power leads. Made with the maximum applicable level: I _{max} = 10A	10 KHz to 100 MHz
RE102	Radiated emission	10 KHz to 18 GHz
RS103	Radiated immunity	2 MHz to 40 GHz

NOTE: EMC and EMI reports are available upon request. Contact: sales@eurotech.com

About Eurotech

EuroTech delivers embedded computer systems for high capability and low power applications, networking and wearable computing solutions, and application framework middleware for multimedia, industrial, transportation, medical, and wireless applications. EuroTech platforms allow OEM and enterprise customers to focus on their core revenue-generating products and services and get to market quickly.

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